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7

**NEW TECHNICAL EFFORTS
TOWARDS
A BETTER NUTRITION**

GENEVA 1938

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TABLE OF CONTENTS

	Page
<i>Chapter I. — THE PROBLEM OF NUTRITION.....</i>	5
The First Studies	9
Public Discussion of the Problem.....	11
The Mixed Committee of Experts.....	12
 <i>Chapter II. — THE INTERIM REPORT — PUBLIC HEALTH....</i>	 13
Diet and Health	14
Workers' Nutrition and Social Policy.....	15
Other Organs help	17
 <i>Chapter III. — TECHNICAL ADVANCE.....</i>	 19
National Nutrition Committees.....	20
Programme of Future Study.....	22
Assessment of the Nutritional State of Children.....	23
 <i>Chapter IV. — THE FINAL REPORT : HEALTH, AGRICUL-</i>	
<i>TURE, ECONOMIC POLICY.....</i>	 25
Agriculture and Nutrition.....	25
Adaptation, not Revolution.....	26
Assist the Farmer.....	29
Farmer—feed Thyself.....	31
Poverty and Ignorance.....	32
Food Prices.....	33
Food and Prosperity.....	33
The Challenge and the Opportunity.....	34

CHAPTER I

THE PROBLEM OF NUTRITION

In September 1935, the Assembly of the League of Nations set on foot an enquiry into one of the most fundamental of modern social problems—that of popular nutrition.

Every survey conducted by the relief and social assistance authorities of Western countries since the onset of the economic depression has brought to light signs of malnutrition—lowered resistance, susceptibility to disease, and even deficiency diseases themselves. Study of these symptoms made it clear that malnutrition was not a problem merely of the present crisis ; on the contrary, it is now shown to be a condition tragically common in every country and in many ranks of society. While it is true that the most glaring evidence of habitual underfeeding is to be found among the victims of unemployment and within the poverty levels, it is equally true that hundreds of thousands who possess ample means of livelihood fail to purchase good health because they do not know what foods to buy.

The widespread lack of public instruction about food values constitutes an unfortunate gap in the general advance of medical knowledge during recent decades. The progress made in medical science and hygiene in the second half of the nineteenth century led to the realisation that great possibilities for the improvement

of health lay within the reach of mankind. The knowledge of the infective nature of many maladies indicated ways of stamping out epidemic diseases. Means were discovered of making the human environment more healthy by sanitation and building, and of fortifying the body by physical training. It was confidently hoped that the ancient ideal of *mens sana in corpore sano* would become the heritage of all human beings, if the knowledge being discovered were faithfully applied.

But this advance of medical science has also served to reveal the extent of the ills with which it has still to deal. In spite of the application of existing knowledge of medicine and hygiene, the physical condition of a large portion of the human race is still far below the accepted standard ; and recent investigations have established the fact that this inferiority is largely due to imperfect feeding.

In the great war, Governments that were obliged to enrol large numbers of young soldiers were dismayed at the poor physical quality of the recruits who presented themselves for service. Medical inspection in the schools revealed, and continues to reveal, the existence of large numbers of sickly children below the normal standard of development for their age. The considerable decline in infant mortality in some countries only renders more impressive the persistence of high infant mortality in others. Certain epidemics display a destructive power that seems due, not solely to the virulence of the diseases themselves, but also to a serious lack of resistance in the population.

At the same time, the discoveries of the past thirty

years, leading to the newer knowledge of nutrition, show with ever-increasing certainty that inadequate nutrition plays an important part in infant mortality ; it accounts for the excessive proportion of under-developed school-children and adolescents ; it is responsible for prevalent poor health and lack of energy in adults. Diseases due to deficiencies in diet are to be observed, not only among urban populations, but even among the producers of foodstuffs in rural districts ; not only in poor or primitive countries, but also in the rich nations of old and highly developed civilisation. Indeed, the wide investigation being made at present into standards of nutrition and food habits has led to the conclusion that a large part of humanity is ill-fed or under-fed.

But this is not all the story. Students of world affairs to-day are confronted with a strange paradox: that while a substantial part of mankind is suffering from under-feeding, agricultural products are everywhere a glut upon the market. While health experts are saying "hundreds and thousands of human beings are under-developed, their health and efficiency are being impaired because they are short of milk, meat, fresh vegetables and fruit", while, indeed, a state of semi-starvation prevails in some parts of the world, in others food is being destroyed. While the health expert is complaining that the essential foods are not available at economic prices, the agricultural producer is discovering that there is over-production in agriculture, prices are collapsing, and his work is no longer remunerative.

After 1929, world prices of agricultural products, especially cereals, dropped heavily. Production exceeded

actual consumption, and exceeded, too, the production of previous years. In Europe, Governments decided upon measures of protection—tariffs and quotas—in the interests of the peasant population, the backbone of their social structure. These protective measures were a serious blow to the countries whose economy depended upon the export of their agricultural produce to the industrial countries of Europe. Being restricted in the sale of their cereals and other agricultural products, these countries were forced to curtail their purchases of the manufactured products of industrial countries.

In those countries that had formerly been buyers of cereals and other foodstuffs from abroad, a policy of protection brought about an increase in their local agricultural production without reducing production in the rest of the world. Policies of protection thus aggravated that apparent over-production of agricultural products which was at that time looked upon as the source of the economic disequilibrium. The industrial countries in some cases carried their policy of increasing local production so far as to become actual exporters of agricultural products. The former agricultural countries felt forced to intensify their industrial efforts, and began to produce at high cost the manufactured goods they had been wont to import.

In both agricultural and industrial countries there was a sharp decline in purchasing power ; trade was paralysed. Agricultural distress brought industrial distress and unemployment in its turn ; this in turn aggravated the crisis in agricultural production, and so the vicious circle went on.

From this vicious circle, the nations are still struggling to escape. The movement to make widely known the new discoveries with regard to food values and to improve diet has much to offer to the solution, not only of problems of health and resistance to disease and fatigue, but also of the problems of apparent over-production of agricultural products and inadequate rewards to the agricultural producer.

THE FIRST STUDIES

This movement was begun by the League of Nations ten years ago when the Health Committee made its first enquiry into popular nutrition. A first study was made of dietary standards and food habits in Japan, where a large section of the population was evidently suffering from malnutrition. The next step was an enquiry into the production and distribution of one of the food-stuffs most essential to mankind—milk. In 1932, a study was made of the influence of the world economic depression on public health, with particular reference to nutrition. Finally, in 1935, the Health Committee appointed two experts to prepare a general report on “Nutrition and Public Health”.¹

This enquiry set out to answer three questions : (1) What quantitative and qualitative standards of food requirement should be laid down for various stages of bodily development ? What, in particular, are the food requirements of the working man, and how can these

¹ This report appears in the *Quarterly Bulletin of the Health Organisation*, Vol. IV, No. 2, June 1935.

be ascertained? (2) What resources are available in the different countries to meet these requirements? How may the production, preservation and distribution of foodstuffs be organised in the light of the nutritional needs of different sections of the population? (3) How can the essential foods be brought within the means of every citizen? How does income affect the daily diet? How does income—how do wages—affect food habits? The world economic depression and the necessity which every country has had to face of administering relief have shown the basic relationship between diet and income.

The final question was whether or not the State should adopt a policy of improving nutrition. Both directly and indirectly, Governments are obliged to deal with diets and food habits. Directly, the authorities are concerned with the feeding of various groups of persons—prisoners, the army, school-children and students. They take measures to prevent and cure deficiency diseases, no less dangerous than infectious epidemic diseases : scurvy, pellagra, rickets and beriberi. As measures of relief for unemployment, they have organised communal meals or have supplemented the diet of school-children by means of school meals or the distribution of milk in schools. Indirectly, the State has many opportunities of educating its citizens in the principles of good nutrition ; in schools, from the elementary schools to the technical training schools and medical faculties ; among the population, by means of visiting nurses, public health officials and social assistance authorities. Numerous surveys conducted in many countries have made it clear that

increased purchasing power and improved distribution of foodstuffs cannot alone suffice to improve diets hitherto limited by poverty ; public education is essential.

PUBLIC DISCUSSION OF THE PROBLEM

Public discussion of various aspects of the problem of nutrition in League bodies has constituted a first step in instructing the public about the essential connection between diet and health.

The gravity of the problem of malnutrition was first made the subject of discussion in an Assembly of the League in 1935. Here the question was stated by Mr. Bruce, the Australian delegate, in terms of a world situation. He pointed out the tragedy of the existence in the same world, and even, in some cases, in the same country, of malnutrition and over-production of foodstuffs. The world had just experienced the evils of a long and severe economic depression. The production of all kinds of foodstuffs had been steadily increasing ; markets were glutted and producers were faced with ruin. At the same time, careful enquiries in a number of countries had shown how extensive was the failure to satisfy normal nutritional requirements. Indeed, while some owners of food stocks were unable to find markets, some parts of the world were suffering from famine, and in others large sections of the population from malnutrition. Wherever this state of affairs was found to exist, it caused the most serious apprehension, not only on humanitarian grounds, but because of its possible effect upon the social structure and the internal peace of the countries concerned.

Hence the question first raised by the Health Organisation's enquiries came to the fore again—viz., whether it was not the duty of public authorities to adopt a "nutrition policy" for their respective countries. The discussion in the Second Committee¹ of the Assembly drew attention to the gap between wholesale and retail prices of foodstuffs, and urged the importance of reducing obstacles to trade and distribution.

THE MIXED COMMITTEE OF EXPERTS

With all these considerations before it, the 1935 Assembly decided to make an international enquiry into the existing state of nutrition and the methods by which it might be improved. For this purpose, it created the Mixed Committee of Experts on the Problem of Nutrition, consisting of agricultural, economic and health experts, and including representatives of the Advisory Committee on Social Questions, the International Labour Office and the International Institute of Agriculture. This Committee the Assembly instructed to "submit a general report on the whole question (of nutrition) in its health and economic aspects" to the next Assembly.

¹ The Second Committee of the Assembly reviews the work of the technical organisations of the League (Health, Economic and Financial, Communications and Transit, Intellectual Co-operation) and submits resolutions on these subjects to the plenary Assembly for adoption.

CHAPTER II

THE INTERIM REPORT — PUBLIC HEALTH

The Mixed Committee's Interim Report appeared in July 1936, and at once aroused wide interest in the Press and public opinion of many countries. The report appeared in four volumes : Volume I, the Report proper ; Volume II was the report on the Physiological Bases of Nutrition as defined by the special Committee of Health Experts which had been set up by the Health Organisation to define nutrition standards in terms of bodily functions ; Volume III contained a digest of the information supplied from various countries on standards of nutrition ; Volume IV, entitled " Statistics of Food Consumption, Consumption and Prices ", was compiled by the International Institute of Agriculture at Rome. The Interim Report was designed, not to cover the whole field of nutrition, but to deal with the most immediate problem—that of the relation between food habits and health. It was the hope of the Committee that a first report emphasising this aspect of the problem would arouse public opinion to some realisation of the importance of food habits, and to the seriousness of disregarding rules for proper feeding. They went one step further and drew up a series of recommendations which they submitted to Governments as general guiding principles for national policies on nutrition. These recommendations were, of course, not intended to be taken as absolute rules for every country and every situation ;

they were meant to serve as suggestions for the public health authorities of different countries.

DIET AND HEALTH

The report, which the Mixed Committee endorsed, on the Physiological Bases of Nutrition had been drawn up by a body of health experts of international reputation. It deals, not in generalisations, but in concrete terms and furnishes a guide to nutrition standards for practical people—relief authorities, social workers, public health officers, heads of institutions, teachers, medical doctors, nurses, housewives. It defines in terms of age and bodily function the minimum requirement of the mineral salts and vitamins which science has shown to be closely bound up with the principle of growth. It describes in terms of foodstuffs easily available in the Western world the food needs of infants in the first year of life, young children, adolescents, adults performing heavy manual labour, adults engaged in sedentary work, pregnant women and nursing mothers. The experts emphasised the importance of the expectant mother maintaining a proper diet, since the kind of food she eats will determine whether her child is to set out in life with a well-balanced organism or a handicapped physique.

The experts drew attention to the special value of certain foods which they called “protective” foods—termed thus because they have been shown by the biochemists to contain the minerals and vitamins essential for healthy growth in sufficiently large quantities to

enable the body to build up reserves of these important commodities against the threat of disease. These protective foods are : of first importance, milk—and it would be difficult to exaggerate the beneficial effect of this “ perfectly balanced food ”, particularly in the diet of children and nursing mothers—then, other dairy products—butter, eggs, cheese. Fresh meats and fresh fish are valuable sources of protein and some minerals ; fresh green leafy vegetables, fresh fruits, particularly the citrus fruits, tomatoes, potatoes, carrots. Potatoes, whose popularity has suffered at the hands of the “ slimming ” experts, should not be omitted from diets since they are shown to be valuable sources of calcium and the only vegetables that retain their vitamin C content unimpaired after cooking.

The Mixed Committee of Experts considered it of the greatest importance that these “ protective ” foods should be made available everywhere at economic prices. One of their most important recommendations was that Governments should see to it that they are brought within the means of every citizen.

WORKERS' NUTRITION AND SOCIAL POLICY

Meanwhile, the International Labour Office had also taken up the problem of nutrition and had examined certain of its aspects from its own special point of view. In pursuance of a resolution adopted at the nineteenth session of the International Labour Conference, June 1935, it published in May 1936 a general report on

“Workers’ Nutrition and Social Policy”.¹ In this report, emphasis is laid on the fact that “large numbers of the working population, not only in impoverished or depressed areas, but even in the most advanced industrial countries, are inadequately nourished. Such malnourishment and under-nourishment are not the result merely of temporary dislocation due to an industrial depression, though a depression usually has an aggravating influence. It is a condition found among many employed workers in times of normal business activity.” The report enquires into the causes of this state of affairs, and describes what has been done to mitigate it.

Delegates to the International Labour Conference meeting in June 1936 discussed this report from the different points of view of the bodies which they represent—Government authorities, organisations of employers of labour and labour organisations. The conclusion of all was “that the nutrition of workers should be considered one of the most important problems which the International Labour Organisation has to solve”. The Labour Office was accordingly instructed to continue its studies of nutrition, and has been doing so in close co-operation with the Mixed Committee of Experts on Nutrition.

¹ Workers’ Nutrition and Social Policy : Studies and Reports (Social and Economic Conditions), No. 23, International Labour Office, Geneva, 1936. 249 pages.

OTHER ORGANS HELP

A number of other international organisations had at the same time shown their concern about the problem of nutrition and indicated their desire to co-operate with the Mixed Committee in seeking solutions. For example, a delegate of the International Committee on Inter-Co-operative Relations was asked to attend the 1937 meetings of the Mixed Committee. That body has issued a report describing the means employed by co-operative organisations in different countries to enlighten and guide their members, both producers and consumers, on nutrition questions. Such organisations can be of great assistance to the public authorities in their efforts to spread information about food values and the importance of diet, and to suppress fraud in the representation of foodstuffs to the public.

The League's Advisory Committee on Social Questions, which is represented on the Mixed Committee, is particularly concerned with the social effects of malnutrition in children and young people of both urban and rural populations. They have also given some attention to the question of alternative sources of the elements necessary for balanced nutrition, an important problem in every country where the ideal foods may not be within the reach of every purse. An illustrative case was described at a recent meeting of this body, where the public authorities in a certain district were faced with serious cases of rickets among children. Citrus fruits, which would have been probably the ideal food in this case, were beyond the means both of the authorities and

the people concerned ; but the local social workers and public health nurses dealt successfully with the epidemic by administering cod and other fish liver oils. Similarly, experiments are every day being made with other "alternatives" for the essential food values.

Private organisations and societies, many of whom have given ample evidence of their interest in questions of diet and food habits, have shown themselves particularly well placed to study this important aspect of the problem—the adaptation in terms of the foodstuffs most readily available in given local areas of the principles of proper nutrition.

The International Commission of Agriculture, at a meeting held in Oslo in June 1936, stressed the economic importance of the problem, and the need for a thorough study of the diet available for agricultural populations in view of the present agricultural depression and unemployment.

The General Assembly of the International Institute of Agriculture held in October 1936, decided to strengthen its collaboration with the Mixed Committee and laid down the lines of its own future work and investigations in this field.

All these various bodies and interests, inspired by a common aim, have given valuable support to the Mixed Committee. It has been the aim of the latter in publishing its reports to furnish all interested bodies, official and voluntary, with a basis for a working programme designed to secure greater health and prosperity.

CHAPTER III

TECHNICAL ADVANCE

The seventeenth Assembly of the League (September 1936) endorsed the guiding principles of policy put forward by the Mixed Committee and recommended their adoption by Governments. At the same time, it decided to give a fresh impetus to the studies undertaken, both those devolving on the Mixed Committee and those of a more specialised nature which fall to the Health Organisation.

As a result, the League now has before it a long list of subjects, some of them quite technical, related to nutrition, upon which study is still to be done. Here, as in the work of the Mixed Committee, it is no part of the League's intention to suggest absolute rules or remedies for the problem of underfeeding in different countries. Its purpose is rather to make known the findings of science in so far as it has advanced in this field, and to furnish an impetus both for further research and for the application of our present knowledge to the special problems of each country and locality. If food habits are to be improved and the general standard of public health thereby raised, a number of different factors must be taken into account—custom, tastes, traditions, economic resources, standards of living, occupation and income. These factors vary from country to country, from district to district, from family to family. It is obvious that the final responsibility for solving

malnutrition in terms of all these factors must lie with the local and Government authorities.

In the light of this conclusion, the Mixed Committee of Experts recommended that Governments should “co-ordinate the work done by different authorities which affects the nutrition of the people and, in the absence of a central authority, set up a special body for this purpose in order to secure unity of policy and direction”. With a view to co-ordinating the activities of these national committees—some of which had already been set up—the Assembly suggested that it might be well to arrange for an exchange of views and experience between their leading members.

NATIONAL NUTRITION COMMITTEES

A first meeting of representatives of a number of national committees was accordingly held at Geneva on February 22nd to 26th, 1937, under the chairmanship of Lord Astor. The agenda was confined to the following points :

(1) Status and composition of national committees ;

(2) Work already done and in progress ; methods employed in order :

(a) To assess the state of nutrition of the national population ;

(b) To spread the principles of improved nutrition among the population.

Each of these points afforded an opening for interesting discussions. Those present at the meeting described

what had been done in their respective countries to introduce new food consumption habits and to improve the standard of public health and maintain the improvement when secured. A wide variety of methods had been employed, but there was general agreement on the need for spreading a knowledge of the value of protective foods and of the importance of a correct balance in the daily diet. Much striking evidence was produced of the effect of such a balance on health and growth, especially in the case of children, but there is, unfortunately, equally abundant and striking evidence that an "optimum condition" is rare, not to say exceptional.

The composition and status of national committees vary in different countries ; indeed, rigid standardisation would make them unadaptable to national conditions. The members of the meeting unanimously agreed, however, that those bodies should be so constituted as, in the Assembly's words, "to secure unity of policy and direction". One essential condition for this would seem to be that they should be incorporated in the State administrative organisation. A national committee that depends entirely on private initiative for its driving power and its finances, as some of them do, is undoubtedly not in a position to perform its functions satisfactorily.

It is plain that a national nutrition policy must be based on periodical enquiries into food consumption habits. The methods generally employed to determine the state of nutrition of the population were discussed at length and a number of principles and rules for guidance embodied in a memorandum which will, it is hoped, be elaborated by a technical committee of the

League's Health Organisation. As long ago as 1926, the International Labour Organisation held a conference of labour statisticians, and published a report on methods of securing and analysing data on consumption of foodstuffs and other goods and services by workers. The expert members of the Committee advising the International Labour Office on nutrition have recently recommended to the Governing Body of that Organisation to arrange for a further international discussion on the subject in collaboration, especially, with the experts of the League Secretariat and of national nutrition committees. The Committee attaches importance to effective co-operation between these organisations in the improvement of the methods used in such investigations and, in the interest of international comparisons, to secure their greater uniformity.

PROGRAMME OF FUTURE STUDY

After the publication of the Mixed Committee's interim report, the Health Organisation of the League of Nations undertook a series of connected studies. It is thus making a specially valuable contribution to our knowledge of the general problem, the scientific aspect of which still offers great openings for research.

The authors of the report on "The Physiological Bases of Nutrition", already mentioned, recommended, when submitting their conclusions, the following ten problems for further study :

- (1) Assessment of the nutritional state of children ;
- (2) Nutritive food requirements during the first year of life ;

- (3) Minimum vitamin and mineral requirements ;
- (4) Minimum fat requirements ;
- (5) The nutritive and “supplementary” values of the different protein-containing foods, to determine to what extent and in what forms animal protein is necessary for growth and health ;
- (6) The relative nutritive value of different cereals according to the degree of milling ;
- (7) The extent to which the increasing consumption of sugar is detrimental to health ;
- (8) Influence of climate on food requirements ;
- (9) The extent to which diets in common use fall below the standards recommended in this report ;
- (10) The optimum amounts of milk required at the different ages.

This list was later amplified by a proposal for special investigations on the subject of milk, more particularly the additional nutritive effects of the reciprocal action of the dietetic elements contained in milk on the one hand and cereals and potatoes on the other.

ASSESSMENT OF THE NUTRITIONAL STATE OF CHILDREN

The first of the subjects mentioned above—assessment of the nutritional state of children—was considered at a meeting of health experts held in Geneva in December 1936. These experts recommended the use of several types of enquiry, according to the number of children whose state of nutrition was to be examined.

As a first type of enquiry, aiming at the rapid classification of a large number of individuals, they suggested that cards should be compiled showing age, sex, physical appearance, weight, height and the results of a simple clinical examination. A second type of enquiry, involving more thorough examinations and covering a smaller number of individuals, includes, in addition to the tests employed in the first type, an economic and social investigation (more especially into the diet of the family and the child), a thorough medical examination and a series of tests, particularly tests for latent pre-deficiency in vitamins A, C, and D. A third type of enquiry aims at the scientific study of the influence of a quantitatively or qualitatively deficient diet on all the functions of the organism, both physical and mental. Enquiries of all these kinds are now being conducted in certain countries. In Sweden, they are to cover 50,000 children ; in Czechoslovakia, 10,000 and, in Austria, 20,000. Similar investigations have also been in progress for some time in the United States, the United Kingdom, Poland and Norway.

A second group of experts, which consisted chiefly of pediatricists, devoted its attention to determining the nutritional requirements during the first year of life, more especially in calories, proteins, carbohydrates, fat, mineral salts and vitamins. It set out its findings on the length of the period of breast-feeding and of artificial feeding, on the administration of orange juice, tomato juice and cod liver oil, and on the use of cereals, broth, vegetables and eggs in the diet of infants.

CHAPTER IV

THE FINAL REPORT : HEALTH, AGRICULTURE, ECONOMIC POLICY

The League's final report on nutrition was published late in August 1937, on the eve of the meeting of the eighteenth session of the Assembly. This report amplified and brought up to date the experts' first conclusions published in their interim report about the bearing of food habits upon public health. It went on to discuss the relation between the problem of nutrition on the one hand, and, on the other, agricultural policy and economic relations.

One of the questions to which the experts had addressed themselves was this : supposing that, in every country of the world, food habits improved, this would mean a greater demand for dairy products, for garden produce, for fruits and fresh meat. What effect would this change in demand have upon agricultural production in different countries? What effect upon economic relations?

AGRICULTURE AND NUTRITION

Their report shows how the movement towards better nutrition is actually proceeding in different parts of the Western world. Nutrition policy naturally varies a good deal from country to country, since the conditions to which it must refer—economic resources, social customs and traditional food habits—differ widely.

But the ultimate goal of such policy must be everywhere the same : to ensure that all sections of the population obtain an adequate diet, that is, a diet which provides in adequate amounts and in correct balance the energy-bearing and the protective foods.

In many countries, efforts are being made to improve by direct methods the nutrition of certain sections of the population. For example, the experiment of the provision of milk to school-children is being tried in many areas ; and efforts to improve diet are being made by public authorities charged with the administration of relief or social assistance, by public institutions, such as maternity clinics or welfare centres, by private societies interested in welfare centres and by camps, etc. Experiments in supplementing diet by local production are being made in garden allotments and in the production or preparation of food on co-operative lines.

In nearly every country, some effort is being made to instruct the public in the important connection between diet and health. There is room in every economic group for such education. It is, of course, important not to lose sight of the relation of adequate shelter and clothing, fresh air, sunshine, exercise and living conditions generally to the nutrition policies adopted to improve general health. But it may be said that the first objective remains proper feeding, especially in early life.

ADAPTATION, NOT REVOLUTION

The Mixed Committee's final report shows how the demand for " protective " foodstuffs has grown in recent

years and how agricultural production is gradually adapting itself to supply this demand. In general, it is true to say that an increase in the demand for foodstuffs (of whatever kind) implies an increase in agricultural activity. The fact that some emphasis is being laid upon a special group of foodstuffs—the protective foods—means that agriculture must adapt itself to produce these in relatively greater quantities than heretofore. The experts, however, consider that this does not imply a revolution in agricultural production. Any change in food habits which may be anticipated will be gradual, and local production, as well as production for the market, will have time to adjust itself to changes in demand. Indeed, as the majority of the protective foodstuffs for which demand will increase are perishable, the change to produce relatively more of these will benefit agricultural production for the local and national market in all countries by giving it the natural protection which variety of production always affords.

One should not conclude that the producers of the energy-bearing foods, the most important of which are the cereals, would suffer by this change. Although the first tendency of the movement for improved nutrition was to place special emphasis upon the consumption of the protective foods, it is, of course, recognised that the energy-bearing foods still remain and will remain the basis of human diet.

In the more advanced countries, the great majority of the people obtain sufficient energy foods, but quite half the population of most of the advanced countries do not receive sufficient of the protective foods (milk, fruit,

vegetables, etc.). In the less advanced countries of Europe, there is not only a very serious lack of the protective foods, but even need for a greater consumption of bread. In the Far East, the conditions are too often such as are described by the Chinese Government in their report to the Committee, which states that most Chinese suffer from malnutrition all the time.

It is clear that an improvement in the nutrition of these groups should benefit the arable farmers. If the world problem of nutrition be viewed as a whole, the enormous scope for increase in the consumption and production of cereals and certain other foodstuffs valued chiefly for their energy-yielding qualities becomes at once apparent.

Thus, while national agriculture will benefit by the growth in demand for protective foods, countries producing for export will benefit as the primary needs of the poorer classes for energy-bearing foods are more adequately met.

The League's experts show that agriculture has in fact been able to adapt itself successfully, though not without some difficulties, to changes in the structure of demand during the past twenty-five years. They are of the opinion that the adaptation which will be required in the future in response to the movement to improve food habits, will not involve a rapid transformation of the whole structure of agricultural systems, but merely the gradual re-orientation and expansion of production to meet the new requirements. They suggest that agricultural policy should be directed towards the formulation of measures to facilitate the orderly adaptation and expansion of production to the changing demand.

The possibility of such an adaptation in agricultural production is clearly indicated by a reference to what has actually occurred in Denmark. During the past sixty years, the agricultural economy of that country has been changed from the production of cereals for export into animal husbandry based on the production of large quantities of cereals for animal fodder. Denmark has become an exporter of dairy products. This has not, however, resulted in any decrease in the quantities of cereals produced from Danish soil ; indeed, the national production of cereals has doubled, but its product is used chiefly as fodder to support an increased export of dairy products.

ASSIST THE FARMER

An important section of the Mixed Committee's final report discusses measures which the experts propose for assisting agriculturists in their efforts to adapt production to the new demands. Of first importance is the problem of how to make available the capital required for any scheme of adaptation and expansion, whether in industry, commerce or agriculture. In general, industry and commerce have readier access to capital than agriculture. The Mixed Committee shows the importance of assisting the necessary adaptation of agriculture by means of developing and strengthening agricultural credit systems.¹

¹ In this connection, reference might be made to the recommendations on agricultural credit systems made by the League's Financial Committee during its recent session : " The experience of recent

The Mixed Committee's report urges, as another way of helping agriculturists to meet changing demands, the encouragement and development of agricultural co-operative enterprises. Adjustments which are difficult for an individual producer may be facilitated by joint action. Agricultural co-operative societies have rendered real services in the past by helping farmers to improve their methods, by arranging for the joint use of machinery, by distributing scientific knowledge and information about market conditions and organising marketing. There is room in every country for a useful extension of such co-operative enterprises.

Practical assistance to the farmer might usefully take the form of an information service. Governments which are pursuing a policy of improved nutrition can further this policy and at the same time materially assist the adaptation of agriculture by disseminating information regarding the general trends to be anticipated in the demand for foodstuffs.

years has gone to show, too, that the systems of agricultural credit in many countries have been particularly vulnerable to the shock caused by wide fluctuations in the prices of agricultural products. The Committee suggests, therefore, that any enquiry into national agricultural credit systems with a view to laying down certain fundamental principles might yield valuable results. Such an enquiry should cover mortgage legislation and co-operative credit systems, and might with advantage be accompanied by a parallel enquiry into agricultural insurance." Report on the work of the sixty-fourth session of the Financial Committee (document C.221. M.161.1937.II.A).

The International Institute of Agriculture (Rome) is also dealing with problems of agricultural indebtedness, insurance and credit.

FARMER—FEED THYSELF

The problem of diet among rural populations—a very serious problem, particularly in areas where one or two crops only are grown for national or export trade—can to a large measure be met by inducing farmers to grow as much protective food as possible for their own use. It is a sad paradox that, in many countries, malnutrition is particularly serious among the producers of food.

Since better nutrition implies diversified diet, the general movement for improved nutrition will force farmers to produce a greater variety of foodstuffs, and their own nutrition cannot fail to benefit from this. The League's experts on nutrition attach special importance to the education of the small farmer to the nutritive value of dairy produce, vegetables and fruit, so that he will not direct his energies too exclusively to production for sale, but will produce as much as possible of foods of high nutritive value for consumption in his own household.

Other measures which State authorities should consider as a means of protecting and assisting the farmer during this period of adjustment are : machinery for keeping him informed of the latest developments regarding agricultural methods and processes, and market developments ; assistance in the combat of animal disease ; the purchase of better seed and the buying of fodder and fertiliser at economic prices ; improvement of transport facilities ; strengthening of the agricultural credit system and stimulation of national consumption.

POVERTY AND IGNORANCE

Both the Mixed Committee of Experts and the International Labour Organisation have considered the important bearing on diet of food prices in comparison with income and standard of living. The experts' report contains the results of studies of family budgets in different countries which show how diets have improved as income has increased. A comparison between the existing distribution of incomes and the costs of minimum nutritionally adequate diets shows that malnutrition of important sections of the population, even in such relatively prosperous countries as the United States of America and the United Kingdom, can be traced directly to poverty. In every country, malnutrition is most acute among the poorer people, and particularly where the wage-earner has to support a large number of children. However important it is—and it has been shown to be of great importance—to educate the public in dietetics and food values, the report makes it clear that the basic cause of malnutrition is poverty.

The problem of how to deal with this cause of malnutrition—*i.e.*, how to raise the level of income—is essentially a matter for the different national authorities. The Committee of Experts could, therefore, make no direct recommendations. They did, however, draw attention to some measures which might be applied as palliatives, if not remedies. The social services, they suggest, might be employed to mitigate the malnutrition due to poverty by providing school meals, milk in clinics for expectant and nursing mothers, or family allowances.

At the same time, the experts did not undervalue the need for education in food values. Their report contains examples showing how enormously the quality of diets may vary even among families living on the same income. Their review of the various educational methods tried in different countries is well worth notice by anyone interested in this way of improving food habits.

FOOD PRICES

In connection with their consideration of income and food costs, the experts describe how food prices are determined by different factors connected with supply—technique and costs of production, commercial policy, market organisation and distribution costs. They have drawn attention to the fact that co-operative schemes of production and marketing have been found to result in a reduction of retail food prices. They point out that there is often much scope for a reduction in the margin between wholesale and retail prices, and suggest that this possibility should be carefully considered by every Government interested in maintaining supplies of good food at economic prices.

FOOD AND PROSPERITY

It was impossible for the nutrition experts to discuss the supply of nutrition food without taking into account the fact that most countries must import some of the foodstuffs required to maintain a properly balanced diet among their citizens. They have shown that where extreme policies of protection of agricultural products

are in force, foodstuffs are made dearer, and this cannot but have a detrimental effect upon food consumption habits. They suggest, therefore, that Governments should reconsider their agricultural tariffs and quotas in the light more especially of the nutritional needs of their citizens. A freer exchange of food products could not fail to make the essential foods more easily available in every country. Further, it could not do other than improve economic conditions.

It is, indeed, the thesis of the League's experts on nutrition that the adoption of sound nutrition policies by many Governments would result, first, in a marked improvement in national health ; and, secondly, in an improvement in the position of both national and world agriculture. This, in turn, would increase the purchasing power of agricultural populations for manufactured foods. Improved nutrition should thus bring about a marked improvement in the world economic situation.

THE CHALLENGE AND THE OPPORTUNITY

The general conclusions reached by the experts are that food habits in Western communities have been tending to change in the right direction, and that, not only world agriculture, but also the various national agricultural systems should benefit from the increased demand resulting from an extension of the movement towards better nutrition. They nevertheless bring forward an important collection of evidence relating to food habits and diets in various parts of the world, which shows that in spite of the considerable progress which has taken

place in recent decades, the problem is still urgent and one which should receive first attention from authorities everywhere.

* * *

“The malnutrition which exists in all countries is at once a challenge and an opportunity ; a challenge to men’s consciences and an opportunity to eradicate a social evil by methods which will increase economic prosperity. ”

NUTRITIVE VALUE OF FOODS

(From "Nutrition"; final report to the Assembly of the Mixed Committee
of the League of Nations (document A.13.1937.II.A).)

Food	"Good" protein	Min- erals	Vitamins			
			A	B	C	D
Milk	++	+++	+	+	+O	+O
Cheese	++	++	+	+	-	-
E Eggs	++	++	+	++	-	++
E Liver	++	++	+	++	-	+
E Fat fish (herrings, etc.)	+		+	+	-	++
Green vegetables, salads	+	+++	+	+	++	-
Raw fruit, fruit juices		+++	+ *	+	++	-
E Butter	-	-	+	-	-	+O
Cod liver oil	-	-	+++	-	-	+++
Yeast	+	+	-	++	-	-
Meat (muscle) ...	+	⊥	-	+	⊥	-
Root vegetables, tubers.....			+ *	+	+	-
Legumes (dry peas, lentils)			-	+	-	-
E Cereals, bread (wholemeal)....	+	⊥	⊥	+	-	-
E Cereals, bread (white)			-	-	-	-
E Cereals, rice (pol- ished)			-	-	-	-
E Nuts	⊥		-	++	-	-
E Sugar, jam, honey			-	-	-	-
E Margarine, olive oil and other vege- table oils			-	-	-	-

Highly
protective
foods

Less
protective
foods

Non-
protective
foods

E = foods of high energy or caloric value.

+++ signifies very rich.

++ signifies rich.

+ signifies present.

⊥ signifies present in small amount or traces.

- signifies absent.

O signifies in summer, when the cows are on pasture.

* signifies if yellow in colour.

Final Report of the Mixed Committee of the League of Nations on the

**Relation of Nutrition to Health, Agriculture
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(Ser. L.o.N. P. 1937.II.A.10)

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Further see :

Nutrition and Public Health, by Et. Burnet and W. R. Aykroyd. (*Quarterly Bulletin of the Health Organisation*, Vol. IV, No. 2.)

Quarterly Bulletin of the Health Organisation, Vol. I, No. 3, entirely devoted to the Problem of Nutrition.

The Methods of assessing the State of Nutrition in Infants and Adolescents in relation to Defective Diet, by Professor E. J. Bigwood. (*Bulletin of the Health Organisation*, Vol. VI, No. 2.)

and

The Nutritive Requirements during the First Year of Life. (*Bulletin of the Health Organisation*, Vol. VI, No. 2.)

The Milk Problem : A critical study of its nutritional, hygienic, economic and social aspects. (*Bulletin of the Health Organisation*, Vol. VI, No. 3.)

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